

REMARKS

In the Office Action of April 30, 2004, claim 5 was said to be indefinite under 35 U.S.C. § 112. With the present Amendment, Applicants have attempted to clarify the language of claim 5.

In amended claim 5, a first tilt context value is maintained for longer than a set period of time followed by a second tilt context value that is maintained for less than the set period of time, followed by a flat context value. The orientation for an image is then selected based on the first tilt context value instead of the second tilt context value when the flat context value is received. Thus, although two tilt context values are generated before the flat context value, only the tilt context value that was maintained for longer than any set period of time is used to select the orientation of the image in the display. As amended, claim 5 is now definite.

Claim 5

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lands (U.S. Patent 6,201,554) in view of Thomas (U.S. Patent 6,567,101).

In the Office Action, it was stated that Thomas shows a step of selecting an orientation for an image on a display when the flat context value indicates the device is laying flat by using a tilt context value that was maintained for longer than a set period of time before the flat context value is generated and before a different tilt context value is maintained for less than the set period of time. In particular, column 5, lines 6-11 were cited as showing these steps because they show that a calibrator may be automatically activated if a device is held in a particular orientation for more than a specified period of time. Applicants respectfully dispute this assertion.

The cited section of Thomas does not show the selection of

an orientation for an image when a flat context value is generated. Instead, the cited section discusses a calibrator that is used to set a zero tilt angle for the device. This zero tilt angle is used as a reference point for determining how much the device has been tilted, which in turn is used to control scrolling of an image on the display. Thomas does not state that this calibrator is used to determine an orientation for an image when the device is laid flat.

In fact, it appears that Thomas continually changes the orientation of the image as the device is rotated about the z-axis. As a result, even if the calibrator is activated for one position of the device, the orientation of the image will change if the device is rotated about the z-axis before it is laid flat. Thus, it is the final z-rotation of the device that determines the orientation of the image when the device is laid flat, regardless of how long that z-rotation was maintained.

This is substantially different from the present invention in which changes in the tilt context value that are not maintained for longer than the set period of time are not used to determine the orientation of an image when a flat context value is received. Instead, an earlier tilt context value that was maintained for longer than the set period of time is used to select the orientation for the image when the flat context value is received.

Note that none of the cited references address the problem solved by claim 5. That problem arises because as a device is placed on a flat surface, it generates a number of different tilt context values that can cause the orientation of the image to change arbitrarily. By requiring a tilt context value to be maintained for more than a set period of time, the present invention prevents the orientation from changing arbitrarily as the device is placed down on the surface. Thus, claim 5 allows the orientation of the display to switch based on a tilt angle while at the same time maintaining a stable orientation when the

device is laid flat on a surface. None of the cited references show or suggest the need for this invention and none of the references show or suggest the solution provided by claim 5.

In the Advisory Action of August 27, 2004, the Examiner asserted that since there is no minimum period of time required for the second tilt context value, it could be any tilt value generated in moving from a first tilt context value to the flat position.

This assertion assumes that Thomas does not use the last context value it receives for setting the orientation of the image. However, it appears that Thomas in fact continuously changes the orientation of the image as the device is rotated about the axis. (see Col. 6, Lines 55-65 where the display of data "remains oriented with respect to a point of reference.") As a result, in moving from one tilt position to another tilt position before laying the device flat, Thomas always uses the last tilt position to determine the orientation of the displayed image. This is substantially different from the present invention in which the last tilt position is not used if it was not maintained for more than a set period of time. Instead, an earlier tilt position that was maintained for more than a set period of time is used.

Since neither Lands nor Thomas show or suggest selecting an orientation based on a tilt context value that is maintained for more than a set period of time instead of a later tilt context value that is maintained for less than the set period of time, their combination does not show or suggest the invention of claim 5.

Claim 9

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lands in view of Thomas.

Claim 9 provides a method in which at least one sensor signal is generated using at least one sensor in a device. A tilt

context value is also generated that indicates how the device is tilted based on at least one sensor signal. The orientation of an image on the display is changed based on the tilt context value unless the tilt context value is being used to control scrolling of an image on the display.

In rejecting claim 9, the Final Office Action indicated that Lands shows that "the tilting of the display device is affecting image by changing the paging, volume, brightness, or zoom modes." Further, the Final Office Action stated that "as can be seen, Lands does not show that the changing of the orientation is carried out to be used to control the scrolling of an image on the display, which reads on the claim limitation of claim 9."

Although Lands does not control scrolling based on the orientation of the device, Lands also does not discuss changing the orientation of an image based on the orientation of the device. As such, Lands can not suggest that the orientation of an image changes based on a tilt context value. Because of this, Lands does not show a step of changing the orientation of an image on a display based on a tilt context value as required by claim 9. Further, neither Thomas nor Lands shows or suggest that a tilt context value should not be used to change the orientation of an image if it is currently being used to control scrolling of an image on the display as found in claim 9.

In addition, neither Lands nor Thomas show or suggest the problem solved by claim 9. The invention of claim 9 prevents the display orientation from switching during scrolling while allowing the orientation to switch if the display is not scrolling. This is done under the present invention because changing the orientation can cause a delay in the redrawing of the display. Such a delay is undesirable during scrolling. By preventing orientation redraws, the present invention provides a more stable appearance to the user interface during scrolling while allowing the orientation to be switched based on tilting when the scrolling

is not activated. Neither Thomas nor Lands discuss the problem of delayed redraws or the desirability of suspending orientation switching during scrolling.

Since neither Thomas nor Lands show or suggest that an orientation should be changed based on a tilt context value unless the tilt context value is being used for scrolling, and neither references shows or suggests the desirability of such behavior in a device, the combination of Thomas and Lands does not show or suggest the invention of claim 9.

Claim 10

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lands in view of Thomas and in view of Watanabe (Japanese Patent Publication Number 6-292826).

Under claim 10, a method in a device having display includes generating at least one sensor signal using at least one sensor in the device. A holding context value and an orientation context value are generated based on the at least one sensor signal. The holding context value indicates that the user is holding the device and the orientation context value indicates that the device is in an orientation consistent with the user wanting to use the device. Based on the holding context value and the orientation context value, the device is placed in a full power mode.

None of the cited references show or suggest the invention of claim 10 because none of the cited references show or suggest using an orientation context value to control a power mode on a device.

In particular, Watanabe does not show or suggest using an orientation context value to control a power mode on a device. Under Watanabe, the desktop computer is placed in a normal power mode when the user touches a keyboard. Based only on the abstract, there is no mention of an orientation context value being used to control a power mode in Watanabe.

Similarly, Lands does not show or suggest controlling a power mode on the device based on an orientation context value. Instead, Lands only discusses volume control, brightness control, zooming and paging using orientation context values.

In addition, there is no suggestion in either Lands or Watanabe for combining the orientation context value of Lands with the power mode control of Watanabe. Without such a suggestion, those skilled in the art would not be motivated to place the device in full power mode based on an orientation context value.

This lack of motivation is further supported by the fact that none of the cited references show or suggest the problem solved by claim 10. In particular, by using the orientation of the device to determine when to go into full power mode, the present invention makes it less likely that the device will go into full power mode when it is placed in a briefcase or purse, where it would come into contact with other objects, and thus be perceived as being handled. None of the cited references show or suggest that a device should be prevented from going into full power mode when it is placed in a briefcase or purse. As such, there is no motivation to add an orientation context value to the determination of when to place the device into full power mode. Note in particular, that there is no motivation to add such an orientation device to the desktop shown in Watanabe, since the orientation of the desktop computer in Watanabe is always the same and as a result the sensed orientation would never change and the device would never be brought into full power mode.

Since neither Lands nor Watanabe show or suggest using the orientation of a device to control the full power mode of the device, the combination of the cited references does not show or suggest the invention of claim 10.

Claim 12

Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lands in view of Thomas and Watanabe.

Claim 12 is directed to a method in which at least one sensor signal is generated and a sequence of proximity context values are generated based on the sensor signal. The sequence of proximity context values indicates the movement of an object relative to the device. Under the method, the device is prevented from entering an idle mode when the sequence of proximity context values indicates that an object is moving relative to the device while allowing the object to enter an idle mode when the sequence of proximity context values indicate that an object is present but not moving relative to the device.

Claim 12 is not shown or suggested by the combination of cited references. In particular, none of the references show or suggest that a device should be prevented from entering idle mode when movement is detected while allowing the device to enter idle mode when a proximity context value indicates that an object is present but not moving. Since none of the cited references show or suggest the invention of claim 12, claim 12 is patentable over the cited references.

Claim 14

Claim 14 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lands in view of Watanabe and Thomas.

Claim 14 is directed to a method in which at least one sensor signal is used to generate a holding context value that indicates that a user is holding the device. An orientation context value is also generated that indicates that the device is in an orientation consistent with the user wanting to use the device. Based on the holding context value and the orientation context value, a sound capturing application is activated.

None of the cited references show or suggest initiating a sound capturing application based upon a holding context value and an orientation context value. Since none of the cited references show or suggest activating a sound capturing application based on a holding context value and an orientation context value, claim 14

is patentably distinct from the combination of cited references.

Claims 31-33

Claims 31-33 appear to have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Thomas.

Claim 31 is directed to a method in which an indication that a user of a device wants to scroll an image on the device is received. Based on this indication, at least one toolbar from the display is removed. The image is then scrolled.

In the Final Office Action, it was asserted that since Thomas does not show any toolbar in his display, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to realize from Thomas that the device does not include a toolbar because the commands are carried out based upon the orientation of the device and that would increase the size of the display area. Applicants respectfully dispute this assertion.

First, the lack of a toolbar in the Thomas drawings does not suggest that toolbars should be removed from a display. In Thomas, no attempt was made to show actual images in the displays. Instead, Thomas represents the contents of the display with the simple word "Text". This does not mean that Thomas would only show text on the display. In fact, Thomas indicates that the display may show "text, graphics or the like" at column 3, line 65. Since a toolbar is a graphic, it would appear that Thomas would allow toolbars to be shown on the display.

Second, Thomas makes no suggestion that a toolbar should be removed from a display based on an indication that a user wishes to scroll an image. In addition, Thomas does not indicate that there would be any benefit to removing the toolbars before scrolling. As such, Thomas does not provide and teaching or suggestion for removing toolbars from a display before performing scrolling. As such, Thomas does not show or suggest the invention of claims 31-33.

Conclusion


Based on the above remarks, claims 5, 9, 10, 12, 14 and 31-33 are patentable over the cited art. Reconsideration and allowance of the claims is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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